

Weather

Coasters Harbor Navy Yacht Club

www.nwc.navy.mil/chnyc



Weather Affects

- Precipitation
- Wind
 - Direction
 - Velocity
- Waves
 - Swells
- Temperature
 - Air
 - Water
- Humidity
 - Visibility
 - Fog

Friday April 25, 2003

Synoptic Situation: Weak high pressure is bringing us fair weather today, but a low approaching from the southeast will give us a very wet Saturday.

No warnings in effect as of 08

Friday		Saturday	
Day:	Night:	Day:	Night:
			
54°F	45°F	51°F	45°F
<p>Partly cloudy today, becoming cloudy overnight. Wind: Light and variable, increasing to SW 10-15 kts by this afternoon, becoming E overnight. Seas: 0-1 foot, building to 1-2 feet by afternoon.</p>		<p>Cloudy with rain showers, becoming lighter and less frequent overnight. Wind: E 10-15 kts, increasing to SE 15-20 gusting to 25 kts by afternoon, becoming SW 10-15 kts by late evening, shifting around to W after midnight. Seas: 1-2 feet, building to 1-3 feet by early afternoon, abating to 1-2 feet overnight.</p>	
Sunday		Monday	
Day:	Night:	Day:	Night:
			
63°F	42°F	60°F	45°F
<p>Mostly cloudy, becoming mostly clear overnight. Wind: NW 10-15 kts, decreasing to W 5-10 kts by late afternoon. Seas: 1-2 feet, abating to 0-1 foot by late afternoon.</p>		<p>Mostly sunny during the day, becoming mostly cloudy overnight. Wind: W 10-15 kts, increasing to SW 15-20 gusting to 25 kts by early afternoon. Seas: 1-2 feet, building to 1-3 feet by early afternoon.</p>	

Resources

- Newspaper
- TV
- Radio
 - Wx radio
- INTERNET
- Local posting
 - Warnings
 - Watches

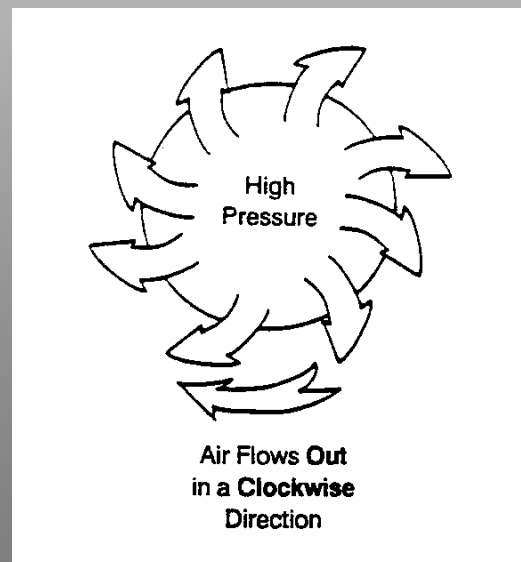
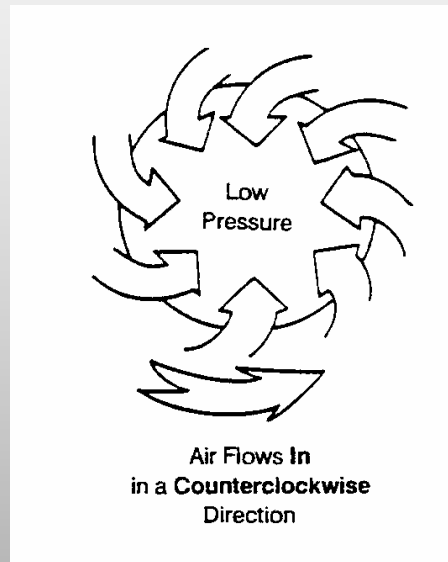


Weather Systems

- **Low**
 - **Relatively**
warm air
 - **Less dense**
air rises
- **Lower**
pressure,
falling
barometer
- **Wind, rain,**
storms
- **High**
 - **Relatively**
cool air
 - **Sinks to**
surface
- **Rising**
barometer
- **Clear**
weather,
good sailing

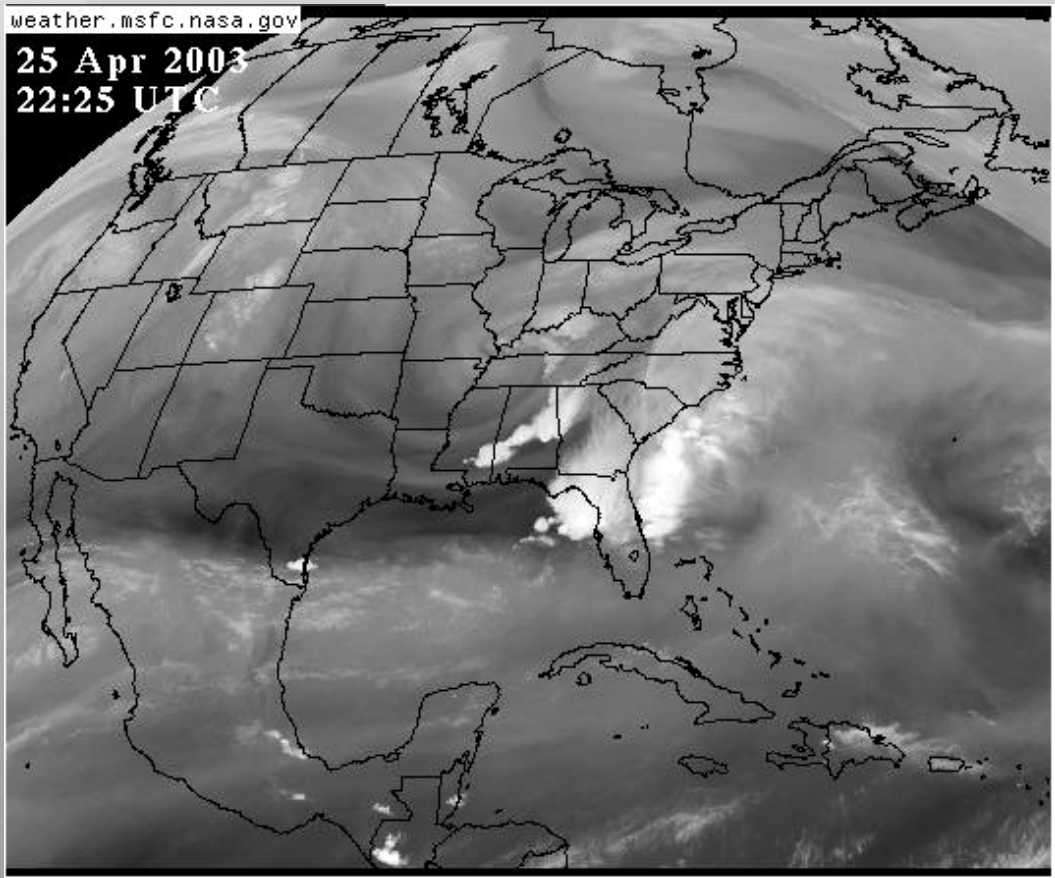
Rotating Air Masses

- **Northern Hemisphere**
 - Around low counterclockwise
 - Cyclonic
 - Around high clockwise
- **Rising and sinking of air in relation to earth rotation**



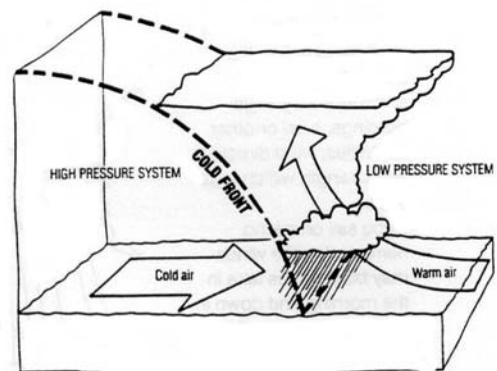
Satellite Photos

- **Show clouds rotating in the same direction as the wind in the air mass.**

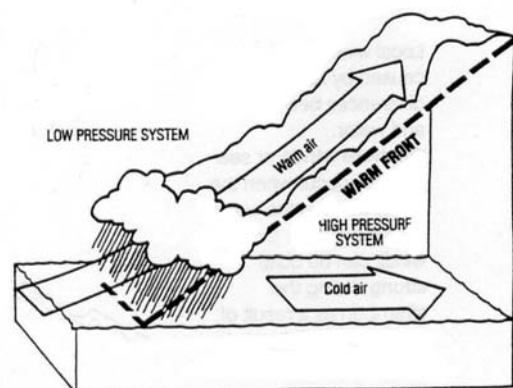


Fronts

- Cold and warm air masses meet
- The border is called a front
 - Cold:
 - Drop in temperature
 - Clockwise shift
 - Heavy rain
 - Warm:
 - Warmer air replaces colder
 - Less violent



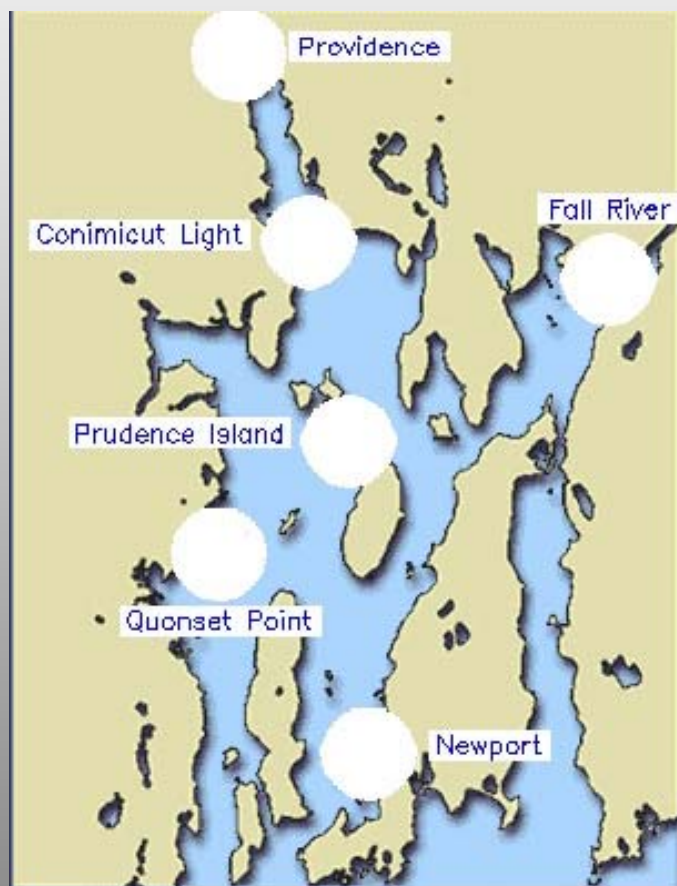
High pressure systems contain cool, dry air that sinks to the ground. When these systems meet warmer air masses, clouds, rain and strong winds can occur.



Low pressure systems contain relatively warm air that has a tendency to rise. They generally move more slowly than high pressure systems and the rain and wind created when they meet cold air masses is less violent.

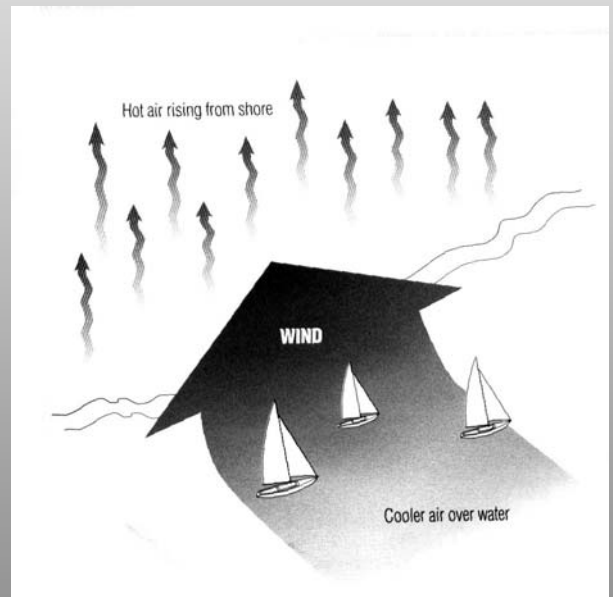
Geographic Affects

- **When water is surrounded by land, hills or obstacles, wind will change often**
 - Direction
 - Velocity
- **Wind will be diverted around islands**
 - Windward shore
 - Leeward shore



Thermal Affects

- Temperature differences between land and water
- Onshore winds blow from the water onto the land
 - Sea breezes
- Cooler air is being pulled in by hotter air rising over the land
- Narragansett Bay every summer afternoon
 - 1300
 - 210 degrees



Squalls

- **Dangerous winds and lightning**
 - Increased cloud cover
 - Darkening skies
 - Change in wind direction
 - Increasing or decreasing velocity
 - Approaching wall of heavy rain
- **Don PFD**
- **Head back to marina**

Fog

- **Reduced visibility**
 - Return when visibility decreases to less than 1 mile
- **Frequent in spring and fall**
 - Temperature difference air and water
- **Remember fog signals**



Weather Summary

- Check the forecast before you sail
- Weather is responsible for about 20% of boating incidents and accidents in RI every year
- Conditions change
- Know your limits